WHAT IS CLAIMED IS:

1. A method of contouring a surface of a slider for supporting a transducer relative to a data storage medium, the method comprising:

(a) applying a lithographic resist layer to the slider surface;

(b) exposing the resist layer through a single mask having a mask pattern defined by variation in an optical density through the mask, wherein the resist layer is exposed in an exposure pattern corresponding to the mask pattern;

(c) removing portions of the resist layer as a function of the exposure pattern to produce a vertically contoured resist layer; and

(d) etching the slider surface through the vertically contoured resist layer during a single etching step to form a vertically contoured surface feature within the slider surface.

2. The method of claim 1 wherein step (b) comprises exposing the resist layer through a single mask, which includes a masked portion having a first optical density, an unmasked portion having a second optical density that is lower than the first optical density and an intermediate portion positioned between the masked and unmasked portions and having a third optical density that is between the first and second optical densities.

3. The method of claim 2 wherein, in step (b), the third optical density varies linearly along the intermediate portion such that the resist layer is exposed to a depth that varies linearly along a portion of the resist layer that corresponds to the intermediate portion of the mask.

4. The method of claim 2 wherein, in step (b), the third optical density varies non-linearly along the intermediate portion such that the exposure pattern

varies non-linearly along a portion of the resist layer that corresponds to the intermediate portion of the mask.

5. The method of claim 1 wherein, in step (b), the mask pattern comprises:

a central recess defining area having a first optical density;

first and second rail defining areas which have a second optical density that is different than the first optical density, are disposed about the central recess defining area and have respective leading edges; and

a leading taper defining area positioned along the leading edges of the first and second rail defining areas, which has a third optical density that is between the first and second optical densities and progressively increases or decreases in a direction from the leading edges toward a leading edge of the mask pattern that corresponds to a leading edge of the slider.

6. The method of claim 5 wherein the third optical density progressively varies such that the etching step (d) forms a vertically contoured leading taper surface in the slider along leading edges of first and second side rails formed in the slider and corresponding to the first and second rail defining areas of the mask and wherein the leading taper surface has an angle of 0.2 degrees to 0.5 degrees relative to the first and second side rails.

7. The method of claim 1 wherein, in step (b), the mask pattern comprises:

a central recess defining area having a first optical density;

first and second rail defining areas which have a second optical density that is different than the first optical density, are disposed about the central recess defining area and have respective inside edges along the central recess defining area; and

first and second edge taper defining areas positioned along the inside edges of the first and second rail defining areas, respectively, which have a third optical density that is between the first and second optical densities and progressively increases or decreases in a direction from the inside edges toward the central recess defining area.

8. The method of claim 7 wherein the third optical density progressively varies such that the etching step (d) forms first and second vertically contoured edge taper surfaces in the slider along inside edges of opposing first and second side rails formed in the slider and corresponding to the first and second rail defining areas of the mask and wherein the first and second edge taper surfaces have angles of 0.2 degrees to 45 degrees relative to the first and second side rails.

9. The method of claim 1 wherein, in step (b), the mask pattern further comprises:

a central recess defining area having a first optical density;

first and second rail defining areas which are disposed about the central recess defining area and have a second optical density that is different than the first optical density;

a third rail defining area which is positioned between the first and second rail defining areas, has a leading edge that trails a portion of the recessed cavity defining area and has the second optical density; and

a leading taper defining area which is positioned along the leading edge of the third rail defining area and has a third optical density that is between the first and second optical densities and progressively

increases or decreases in a direction from the leading edge toward the portion of the central recess defining area.

10. The method of claim 9 wherein the third optical density progressively varies such that the etching step (d) forms a vertically contoured leading taper surface in the slider along a leading edge of a center rail formed in the slider and corresponding to the third rail defining area of the mask and wherein the leading taper surface has an angle of 0.2 degrees to 0.5 degrees relative to the center rail.

11. The method of claim 9 wherein, in step (b), the third rail defining area further comprises:

first and second side edges extending along the central recess from the leading edge toward a trailing edge of the third rail defining area; and

first and second edge taper defining areas positioned along the first and second side edges, respectively, which have a fourth optical density that is between the first and second optical densities and progressively increases or decreases in a direction from the first and second side edges toward the central recess defining area.

12. The method of claim 11 wherein the third optical density progressively varies such that the etching step (d) forms first and second vertically contoured edge taper surfaces in the slider along side edges of a center rail formed in the slider and corresponding to the third rail defining area of the mask and wherein the first and second edge taper surfaces have angles of 0.2 degrees to 45 degrees relative to the center rail.

13. A disc head slider that is contoured according to the method of claim 1.

14. A lithographic mask for exposing a resist layer on a disc head slider, the mask having a mask pattern comprising:

a central recess defining area having a first optical density;

first and second rail defining areas which are disposed about the central recess defining area and have respective leading edges and a second optical density that is different than the first optical density; and

a leading taper defining area positioned along the leading edges of the first and second rail defining areas, which has a third optical density that is between the first and second optical densities and progressively increases or decreases in a direction from the leading edges toward a leading edge of the mask pattern that corresponds to a leading edge of the slider.

15. The lithographic mask of claim 14 wherein the mask pattern further comprises:

first and second edge taper defining areas positioned along inside edges of the first and second rail defining areas, respectively, which extend along the central recess defining area, wherein the first and second edge taper defining areas have a fourth optical density that is between the first and second optical densities and progressively increases or decreases in a direction from the inside edges toward the central recess defining area.

16. The lithographic mask of claim 14 wherein the mask pattern further comprises:

a third rail defining area which is positioned between the first and second rail defining areas, has a leading edge that trails a portion of the

recessed cavity defining area and has the second optical density; and

a further leading taper defining area which is positioned along the leading edge of the third rail defining area and has a fourth optical density that is between the first and second optical densities and progressively increases or decreases in a direction from the leading edge of the third rail defining area toward the portion of the central recess defining area.

17. The lithographic mask of claim 16 wherein:

the third rail defining area comprises first and second side edges extending along the central recess from the leading edge of the third rail defining area toward a trailing edge of the third rail defining area; and

the mask pattern further comprises first and second edge taper defining areas positioned along the first and second side edges, respectively, which have a fifth optical density that is between the first and second optical densities and progressively increases or decreases in a direction from the first and second side edges toward the central recess defining area.

18. A slider for supporting a transducer relative a data storage medium, the slider comprising:

a slider body having a disc-facing surface with a leading slider edge and a trailing slider edge;

first, second and third rails positioned on the disc facing surface and each having a leading rail edge, wherein the first and second rails are disposed about a central recess and the third rail is positioned laterally between the first and second rails, rearward of the

central recess relative to the leading and trailing slider edges, and wherein the first, second and third rails form first, second and third bearing surfaces, respectively; and

first, second and third leading tapered surfaces positioned along the leading rail edges of the first, second and third rails, respectively, and being oriented with respect to the first, second and third bearing surfaces, respectively, at angles between 0.2 to 0.5 degrees.

19. The slider of claim 18 wherein:

each of the first and second rails comprises an inside rail edge adjacent to the central recess and an inside tapered surface that extends along the inside rail edge, wherein the inside tapered surfaces of the first and second rails are oriented relative to the first and second bearing surface, respectively, at angles that are at least 0.2 degrees and less than or equal to 45 degrees; and

the third rail comprises a trailing rail edge, first and second side edges that extend from the leading rail edge of the third rail to the trailing rail edge and first and second side tapered surfaces that extend along the first and second side edges, respectively, and are oriented relative to the third bearing surface at angles that are at least 0.2 degrees and less than or equal to 45 degrees.

20. A slider fabrication apparatus comprising:

a slider having a bearing surface with a resist layer formed thereon; and

lithographic mask means for exposing the resist layer as a function of a pattern defined by an optical density through the lithographic mask means and for creating a progressively increasing or

increasing or decreasing exposure level along at least one portion of the resist layer.